THE DER UPDATE

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Distributed Energy Resources...the Power of Choice

Industry News

CPUC to Install Cogen Plant

The California Public Utilities Commission is planning to install a 400KW cogeneration unit in their parking garage this summer. In addition to providing half of the CPUC's electricity, the plant will also heat the building's water.

RealEnergy Inc. will own and operate the system through a pilot program under the Department of General Services. DGS will lease the three parking spaces the unit will occupy and receive a 7.5 percent electricity discount in addition to the savings on water-heating costs.

The state is considering similar systems for 35 other sites throughout California.
Source: California Energy Markets, July 8

New York Commits $24 Million for CHP and DG

New York Governor George Pataki has announced that the New York State Energy Research and Development Authority (NYSERDA) is installing 45 combined heat and power systems and 11 projects to develop distributed generation technologies in the state. Combined costs will be approximately $24 million, with another $72 million in cofunding added in.

Governor Pataki said, "Combined heat and power systems represent a quantum leap in terms of energy efficiency.... By supporting these efforts throughout the state, we are literally empowering energy users to take greater control over their energy costs and play a significant role in protecting the environment."

Among the projects are natural gas generators at a Pepsi bottling plant and SUNY Binghamton, fuel cells at SUNY Syracuse, a steam turbine at Borden Chemical, and anaerobic manure digesters in the town of Perry.

Microturbine Manufacturer Raises £15 Million

Bowman Power Limited, a UK-based microturbine manufacturer, has raised £15 million (about $23 million) in the second phase on its investment program.

Bowman Power is developing small scale (25 to 100 kW) systems for mobile and distributed applications based on microturbine engines and other next-generation technologies. Executive Chairman Tony Davies said, "The market for microturbine based power generation systems presents enormous potential. This funding enables us to continue to grow our company."

Bowman Power is recognized as one of the fastest growing technology companies in Europe, with over 130 employees in the UK, US, and Japan.
Source: Bowman Press Release, June 2002

FERC Approves CA ISO DG Plan

The Federal Energy Regulatory Commission (FERC) has approved the California Independent System Operator's (ISO) pilot program to bring aggregated small-scale distributed generation units (under 1 MW) under ISO dispatch control. The proposed plan is in effect from June 1 through the end of this year. The distributed generation operators are able to schedule transactions in the ISO's supplemental energy market and use streamlined procedures that apply to wholesale power of backup or onsite generation within the Western Electricity Coordinating Council.
Source: Public Utilities Reports GridWeek, June 21, 2002

DOE NEWS

Implementation of DG Interconnection Standard

On June 13, 2002, the Institute of Electrical and Electronics Engineers (IEEE) Standards Board formally approved the standards development project ***P1614 Guide for Monitoring, Information Exchange and Control of Distributed Resources Interconnected with Electric Power Systems.*** The guide will provide information to support implementation of the technical requirements for "Monitoring Provisions" in the current draft of P1547 Standard for Interconnecting Distributed Resources with Electric Power Systems. The P1614 project is the third project the IEEE Standards Board has approved to support implementation of the P1547 interconnection standard. The other two projects are: ***P1589 Standard for Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems*** and ***P1608 Application Guide for IEEE Standard 1547 for Interconnecting Distributed Resources with Electric Power Systems***. The P1547 interconnection standard is widely expected to be passed in the

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*EPRI is planning to begin a $15M, two-year effort to assess the Nation's electricity system and how it would manage a concerted terrorist attack.**

California Energy Commission Approves Distributed Generation Strategic Plan

The California Energy Commission (CEC) recently approved the *Distributed Generation Strategic Plan*, a document consisting of recommended policies and strategies for the State to consider regarding the subject of distributed generation. The plan outlines the CEC's vision of the future relating to distributed generation, identifies issues and opportunities affecting the likelihood of that vision being realized, and addresses the role that government can play in the process.

The plan presents relevant background information (including information about distributed generation technologies and potential barriers to deployment) in addition to the following plan elements: vision, mission, strategies, goals, activities, and guidance to other State agencies.

Vision: Distributed generation will be an integral part of the California energy system, providing consumers and energy providers with safe, affordable, clean, reliable, and readily accessible energy services.

Mission: The CEC shall lead a statewide effort, which promotes and deploys distributed generation technologies to the extent that such effort benefits energy consumers, the energy system, and the environment in California..

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DER Among State Energy Program Special Projects Awards

On July 10, 2002, Secretary of Energy Spencer Abraham announced that the Department of Energy will provide $12,608,524 to 47 states and three territories for 138 energy efficiency and renewable energy projects. The department is providing the funding through its State Energy Program Special Projects competitive grants.

Nineteen of the 138 projects focus on distributed energy resources, energy storage, and interconnection, as listed below. More details on all State Energy Special Projects is available at www.eren.doe.gov/buildings/state_energy.

- Clean DER in Demand Response Pilot Project, Connecticut
- Managing High Saturations of DER as a Microgrid, Hawaii
- Evaluating Bulk Energy Storage to Relieve Transmission Congestion, Hawaii
- PV-Battery System for Transmission Management, Illinois
- CHP in Brownfields Redevelopment, Iowa
- CHP System for the Mystic Valley Development Commission's Brownfields Site, Massachusetts
- CHP and Cooling in Public Housing, Michigan
- Southern Regional Collaborative Barrier Resolution for DER, Mississippi
- Reducing Market Barriers for Emerging Residential and Commercial Distributed Energy Technologies, Montana
- Monitoring and Data Collection Protocol Development for CHP Projects, New York
- Distributed Energy Generation: Stirling Engine, North Carolina
- CHP Demonstration, Oregon
- Instrumentation for Educational Fuel Cell in New Green Dormitory at the University of South Carolina, South Carolina
- Technological and Manufacturing Assessment of Metal PEM Fuel Cell Bipolar Plates, Tennessee
- Partnering for a Distributed Generation Public Policy, Virgin Islands
- Integrated CHP-Distributed Energy District, Washington
- Use of Fines and Middlings for Distributed Generation at Rural Industrial Sites, West Virginia
- CHP Outreach and Development, Wisconsin
- Interconnection Training Material Development, Wisconsin

Sources: U.S. Department of Energy Press Release, July 10, 2002; www.eren.doe.gov/buildings/state_energy

*The study includes the development of a war-gaming model, which is similar to those used by DOD to simulate terrorist threats.**

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The plan refers to the U.S. Department of Energy's *Strategic Plan for Distributed Energy Resources* (September 2000), stating that distributed generation activities now underway in California are consistent with DOE's strategic plan objectives. Though the CEC's vision and mission statements are similar to DOE's, the CEC's statements are more conservative since the agency "needs to address the technical and market considerations before committing to the long-term vision and mission." The plan lists near-, mid-, and long-term goals and outlines ideas for collaboration with DOE and other public and private entities, emphasizing the need to leverage state funds when possible and avoid duplication of efforts.

The CEC solicited input from distributed generation industry stakeholders and other interested parties at a public workshop held on February 5, 2002. After considering comments received at this workshop, the CEC released a draft *Strategic Plan for Distributed Generation* on May 1. A Committee hearing was held on May 22 to hear comments on the draft plan. The Committee published its final plan on June 4, and the CEC unanimously approved the plan at its June 12 business meeting. The plan is available on the CEC's website at www.energy.ca.gov/distgen/strategic/strategic_plan.html.

(*cont. from DOE News*)

upcoming ballot in August, providing the urgency for these additional projects to support implementation of the standard.

In anticipation of the formal approval by the IEEE Standards Board, the P1614 working group held its second developmental meeting on June 7, 2002, in Vail, Colorado. There were over 50 attendees who participated in discussions on topics for consideration under P1614. Initial P1614 working group activities include:

- Develop functional requirements and parameters to be address in the guide
- Review literature and other sources
- Prepare a proposal for templates or object models for DR and interfaces for discussion
- Prepare a proposal for security issues associated with DR and interfaces for discussion
- Prepare outline of guide
- Review/describe technologies
- Identify business processes
- Establish information exchange model
- Draft mapping to protocols
- Definitions/tutorials /background

The next meeting of the P1614 work group is tentatively planned for the week of October 7, 2002.

Draft Model DG Interconnection Procedures

On June 19, 2002, the National Association of Regulatory Utility Commissioners (NARUC) released a draft of its Model Distributed Generation Interconnection Procedures and Agreement for public comment. With support from the Office of Distributed Energy Resources, NARUC has undertaken to develop this model DG interconnection rule in order to harmonize state approaches to DG interconnection. Over the last few years, several states have issued regulations addressing distributed generation ("DG") interconnection procedures and agreements for small generators. Others are in the process of developing such regulations. These regulations foster uniformity of interconnection requirements and processes within a particular state. The DG proponents, however, see value in consistent regulations across the nation. The NARUC effort fills the need for providing guidelines that foster uniformity among the States. NARUC intends to have a finalized document ready for presentation at the NARUC Summer Meetings at the end of July.

The draft NARUC document mainly represents provisions previously subject to various state proceedings and is available on NARUC's web site at www.naruc.org.

NREL to Participate in DG Interconnection Task Force

Gary Nakarado, a member of the National Renewable Energy Laboratory's DER Center and a former commissioner with the Colorado Public Utility Commission, has been asked to serve on the Iowa Interconnection Task Force. The Task Force intends to review and make recommendations regarding Iowa's regulations for distributed generation (DG) and develop a DG interconnection agreement for utilities and customers to use. The Task Force is supported by the Office of Energy Efficiency and Renewable Energy's Chicago regional office.

The Task Force, to be comprised of utility representatives, state officials, renewable energy experts, building code officials, and other interested parties, is planning to hold its first meeting in September. Diane Munns, chair of the Iowa Utilities Board, is a member of the Task Force. Commissioner Munns is also a chairperson of the NARUC Committee on Finance and Technology, one of the three NARUC committee sponsors of the NARUC project to develop a model interconnection rule for distributed generation.

Materials Tech Brief

Recession measurements from specimens exposed in the Oak Ridge National Laboratory's Keiser Rig at high temperatures and water vapor pressures quantitatively agreed with what was predicted from a paralinear oxidation model. This finding further supports the use of such environmental testing and associated analysis for assessing effects of temperature and water pressure on oxidation rates. Such an approach has direct relevance for combustion conditions with respect to oxidation of SiC or Si within a composite or underneath a defective protective coating, where conditions of high water vapor pressure and low gas velocity exist.

*EPRI will launch mock attacks on computer and information control networks.**

Calendar of Events

JULY 2002			
21-25	IEEE Power Engineering Society Summer Meeting 2002	Chicago, IL	www.ieee-spm2002.org
AUGUST 2002			
18-23	Summer Study on Energy Efficiency in Buildings	Pacific Grove, CA	www.aceee.org
SEPTEMBER 2002			
19-20	Energizing America's Cities	Chicago, IL	www.gastechnology.org/pub/aboutgri/2000ar/eac/eacindx7.htm
22-25	MicroGeneration to PowerParks 2001	Detroit, MI	www.glrea.org
30-Oct. 2	7th National Green Power Marketing Conference	Washington, DC	www.eren.doe.gov/greenpower/conference
OCTOBER 2002			
2-4	Second International Symposium on Distributed Generation	Stockholm, Sweden	www.ekc.kth.se/ees/workshop/DG.htm
9-11	Combined Heat and Power Expo	Atlanta, GA	Ted Kurklis; 770-449-1595
24-25	DER GridWise Meeting (Communication and Control Systems)	Skamania, WA	Brian Marchionini, 202-479-2748
23-25	DER Federal Energy Management Program Workshop Held in Conjunction with the #rd Annual CHP Roadmap Workshop	Boston, MA	www.eren.doe.gov/femp/techassist/der_resources.html
29-30	15th NREL Industry Growth Forum	Albany, NY	www.cleanenergyforum.com
NOVEMBER 2002			
6-8	AGA/EEI Energy Information Technology Conference and Expo	Las Vegas, NV	720-548-5442
JANUARY 2003			
21-23	3rd Annual Workshop on Microturbine Applications	Calgary, CA	www.nrcan.gc.ca/es/etb/cetc/cetc01/htmldocs/ces_rbrandon_e.html
FEBRUARY 2003			
26-27	Gas Turbines for a National Energy Infrastructure	Crystal City, VA	www.asme.org/igti

The final phase of EPRI's effort is to develop a secure communications network for power system operators, as an alternative to the Internet-based system now in use. Source: EnergyWashington.com, July 8*